UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,684	10/28/2003	Mark Pereira	NVID-P000621	5051

45594 7590 12/11/2008

NVIDIA C/O MURABITO, HAO & BARNES LLP
TWO NORTH MARKET STREET
THIRD FLOOR
SAN JOSE, CA 95113

EXAMINER	
PAUL, DISLER	

ART UNIT	PAPER NUMBER
2614	

MAIL DATE	DELIVERY MODE
12/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/695,684	PEREIRA, MARK	
	Examiner	Art Unit	
	DISLER PAUL	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/25/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1;6-7;11-20;23-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1;6;23-28* is/are allowed.

6)☒ Claim(s) *7;11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amended claims have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

2. Claims 1,6; 23-18 are allowed.

RE claim 1, None of the prior art of record disclose of a speaker at a fixed location *for automatically transmitting a given signal combined with one or more other signals, wherein said given signal has a given frequency above audible range and said other signals have frequencies in the audible range and a computing device* for determining *at least one of a position and orientation of said object from a delay of said given signal received by each of said plurality of microphone*, wherein said :signal comprises a marker and wherein said delay is determined as a function of a delay of :said marker received by each of said plurality of microphones relative "to said marker of a reference signal.

Similarly, Re claim 23, have been analyzed and allowed with respect to claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7; 12-14; 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. (US 6,856,876 B2) and Blair et al. (US 4,695,953 B2).

Re claim 7, Breed et al. disclose of a method of tracking comprising: transmitting simultaneously a first non-audible signal from a first speaker and a second non-audible signal from a second speaker (fig.10 wt (231-233); col.27 line 1-25/plurality of speakers to transmit simultaneous signal):; receiving said first and second non-audible signals at a plurality of microphones (fig.10 wt (355); col.27 line 1-6).

But, Breed et al. fail to disclose of the plurality of microphones for sound receiving. But, Blair et al. disclose of a system wherein having plurality of microphones for sound receiving (fig.2 wt (8,10); col.5 line 65-col.6 line 5). Thus, taking the combined teaching of Breed et al. and Blair et al. as a whole, it would have been obvious for one of the ordinary skill in the art to have modified Breed et al. with having the plurality of microphones for sound receiving for establishing the location based on the delay of the difference microphones for accuracy.

The combined teaching of Breed et al. and Blair et al. as a whole, further disclose of the determining a delay for each of said received first, and second non.-audible signals for each of said plurality of microphones; and determining at least one of a relative position and a relative orientation of said plurality of microphones as a function

of said determined delays (col.27 1-5 & line 20-35/microphone orientation and position based on delay for controlling).

Re claim 12, the method of tracking according to Claim 7, further comprising controlling a cursor of a computing device as a function of said determined at least one of :said relative position and said relative orientation (col.27 line 2-7; col.27 line 30-35).

Re claim 13, the method of tracking according to Claim 7, further comprising controlling an application executing on a computing device as a function of said determined at least one of said relative position and said relative orientation (see claim 12 rejection).

Re claim 14, Breed et al. disclose of a computing system comprising: a plurality of speakers for transmitting one or more sound waves in the audible range (fig.18 (705); col.24 line 55-67/also speakers for audible sound) , and wherein a first speaker automatically transmits a first signal at a first frequency above the audible range and a second speaker automatically transmits a second signal at a second frequency above the audible range substantially simultaneously with the first signals a plurality of microphones mounted on ml assembly for receiving said first and second signals; an a computing device coupled to control said :speakers and. coupled to receive said. first and second signals from each of said plurality of microphones, said computing device ;

determining at least: one of a relative position and a relative orientation of said assembly based on delay differences of said first and second signals received from each of said plurality of microphones (see claim 7 rejection).

Re claim 17, the computing system as described in Claim 14, wherein said plurality' of microphones comprise two microphones and wherein said determined at least one of said relative position and said relative orientation is within a single spatial plane (fig.10/with microphone within a plane).

re claim 18, the computing system as described in Claim 14, wherein said plurality of microphones comprise three microphones (fig.10 wt (mics (3)), But the combined teaching of teaching of Breed et al. and Blair et al. as a whole, fail to disclose of the wherein said determined at least one of said. relative position and said relative orientation is within two spatial planes. But, official notice is taken having determining relative position and said relative orientation is within two spatial planes is designer's preference, thus, it would have been obvious to have modified the combined teaching of teaching of Breed et al. and Blair et al. as a whole, with incorporating the said determined at least one of said. relative position and said relative orientation is within two spatial planes for controlling entertainment system for improving the quality of sound.

4. Claims15-16; 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. (US 6,856,876 B2) and Blair et al. (US 4,695,953 B2) and further in view of Geerlings et al. (Us 2003/0063756 A1).

Re claim 15, the audio-based tracking system according to claim 1, however, the combined teaching of Breed et al. and Blair et al. as a whole, fail to disclose the said plurality of said microphones communicate wirelessly with said computing device. Geerlings et al. discloses a system for capturing sound from a moving object in which plurality of microphones communicate wirelessly with computing device (par[0027]) for the purpose of enabling the user at any location in the vehicle to enhance his travel experience with entertainment in the car. Therefore taking the teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, it would have been obvious for one skill in the ordinary art to incorporate the said plurality of said microphones communicate wirelessly with said computing device in the combined teaching of Breed et al. and Blair et al. as a whole, for the purpose of enabling the user at any location in the vehicle to enhance his travel experience with entertainment in the car.

The combined teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, fail to disclose of the computing device being of a personal computer. But, official notice is taken the concept of having such a computing device being of a personal computer is well known in the art. Thus, it would have been obvious for one of the ordinary skill in the art to have modified the combined teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, with the computing device being of a personal computer for enabling user to bring his own system in the car to be integrated for enjoyment.

Re claim 16, the computing system as described in claim 14, wherein said computing device is a game console and wherein said game console is wirelessly coupled to said plurality of microphones (see claim 15).

Re claim 19, the system as described in Claim 14, but, the combined teaching of Breed et al. and Blair et al. as a whole, fail to disclose of wherein said computing device comprises a display screen. But, Geerlings et al. disclose of a system wherein said computing device comprises a display screen (fig.3,5). Therefore taking the teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, it would have been obvious for one skill in the ordinary art to incorporate said computing device comprises a display screen in the combined teaching of Breed et al. and Blair et al. as a whole, for the purpose of enabling the user at any location in the vehicle to enhance his travel experience with video entertainment in the car.

While, the combined teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, teach of the computing device and translates said determined at least one of said relative position and said relative orientation into a cursor position for controlling. But, the combined teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, fail to teach of the specific wherein, said computing device translates said determined at least one of said relative position and said relative orientation into a cursor position on said display screen. But, official notice is taken the concept of wherein, said computing

device translates said determined at least one of said relative position and said relative orientation into a cursor position on said display screen is the designer's need. Thus, it would have been obvious for one of the ordinary skill in the art to have modified the combined teaching of Breed et al. and Blair et al. and Geerlings et al. as a whole, said computing device translates said determined at least one of said relative position and said relative orientation into a cursor position on said display screen for enabling the user in the vehicle to have controlled with the entertainment system based on head movement.

1. Claims11; 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. (US 6,856,876 B2) and Blair et al. (US 4,695,953 B2) and Barany (US 5,220,922).

Re claim 11, the method of tracking according to Claim 7, but, the combined teaching of Breed et al. and Blair et al. as a whole, fail to disclose of the specific wherein having said non-audible signal comprises a sine wave . However, Barany disclose of a system wherein the specific wherein: said non-audible signal comprises a sine wave having a frequency (fig.1; col.3 line 65-col.4 line 10). Thus, taking the combined teaching of Breed et al. and Blair et al. and Barany as a whole, it would have been obvious for one of the ordinary skill in the art to have modified the combined teaching of Breed et al. and Blair et al. as a whole, with incorporating the specific wherein: said non-audible signal comprises a sine wave having a frequency for producing narrow beam allowing the

sonic energy to be focused to a desired spot on the subject and avoiding interference from undesired movements.

While, the combined teaching of Breed et al. and Blair et al. and Barany as a whole teach of the non-audible signal having sine wave. But they fail to disclose of the specific wherein said first non-audible signal comprises a sine wave having a first frequency; and said second non-audible signal comprises a sine wave having a second frequency. But, official notice is taken the concept of wherein said first non-audible signal comprises a sine wave having a first frequency; and said second non-audible signal comprises a sine wave having a second frequency is the inventor's need. thus, it would have been obvious for one of the ordinary skill in the art to have modified the combined teaching of Breed et al. and Blair et al. and Barany as a whole, with the specific wherein said first non-audible signal comprises a sine wave having a first frequency; and said second non-audible signal comprises a sine wave having a second frequency for establishing the location based on the delay of the difference signal frequency.

Re claim 20, the computing system as described in Claim .14, wherein said sound wave is a sine wave (see clam 11 rejection).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISLER PAUL whose telephone number is (571)270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./
Examiner, Art Unit 2614

/Xu Mei/
Primary Examiner, Art Unit 2614